The controlsystem of the lefthand outboard aileron was found intact with the exception of the quadrant which was found broken. The quadrant is a casting which permits the control of the outboard ailerons through a cablelink with the inboard ailerons.

Apart from deformations due to impact, nothing abnormal was found amongst the remaining parts of the structure the balance panels, and the hinges of the left aileron. The righthand aileron controlsystem was badly damaged. The aileron control rod was bent and the steel extremity was broken. Nothing abnormal was found amongst the remainder of the structure, the balance panels and the hinges of the right aileron apart from the deformations due to impact.

Note: It is to be noted that in case of seizure of an outboard aileron :

a) flaps down : the inboard ailerons will also be blocked;

b) if flaps are retracted : the inboard aileron adjacent to the seized outboard aileron will be forced in the same direction as the position of the seized aileron until such moment that the inboard aileron reaches its stop. For example, the inboard aileron will be forced upwards if the outboard aileron is seized, in an "up" position and vice-versa.

When the inboard aileron reaches its stop the seizure of the outboard aileron has to give sufficiently or one of the parts in the mechanism will be deformed or broken. If the outboard aileron is seized up in the neutral position the inboard aileron will, after a momentary up displacement, return to neutral.

Tests were made in order to clarify the reasons for the fracture of the extremity of the outboard aileron controlrod under the possible action of flapretraction, ailerons seized in the down position.

These tests showed that the weakest part in the mechanism was the attachment bolt of the upper outboard part fixing the bell crank driven by the actuator breaks by stearing. The blocking torque of the aileron at the moment of rupture is of the order of 250 Kgm.
None of the 4 bolts, left and righthand, in OO-SJB were found sheared. It must therefore be presumed that the breaking of the aileron controlrod was due to the impact force.

9.2.4. Spoilers.

The position of the spoilers on impact is difficult to determine. The spoilers were all found retracted amongst the wreckage. However according to the marks found on the structure and rods it seems that the position on impact might have been as follows:

lefthand outboard spoiler : undetermined
lefthand inboard spoiler : probably retracted
righthand inboard spoiler : out (approx. 40°)
righthand outboard spoiler : undetermined.

The position of the spoilers could therefore correspond to a rightturn control demand.

The "speed brake" control lever was in the neutral position at the moment of impact.

There was no visible indication on whatever remained of the structure, controls, spoiler actuators and control valves that could lead to the conclusion of a failure prior to impact.

However, it must be noted that all shear-rivets situated on the control follow-up mechanism were sheared.

The 3 bypass valves of the system were found in the normal position (hydraulic pressure "on").

The bypass valves of the left and righthand outboard spoilers were contaminated by the fire. The inbound spoilers bypass valve was intact.

Bancktests of these valves (gladden PN 314040-1) gave the following results :

inboard valve : functioned normally
righthand outboard valve : functioned normally after reconditionning (replaced seals and springs).

lefthand outboard valve : functioned abnormally, even after reconditionning as hereabove. The valve remained stuck in the open position.

The overhead panel on which the controlswitches of the spoiler bypass valves are located was found considerable damaged by impact. The cover of the inboard spoiler bypass valve switch was found intact and in the normal (down) position but imprisoning part of the panel normally situated outside the switchcover. The cover of the outboard spoiler switch was found in the up position but with on its corners broken off.

9.2.5. Flaps.

The flaps were in the up position on impact. The selector lever was found on the 0° position.

Apart from multiple brakes due to the impactforce, nothing abnormal was found in the structure or control system. The stripping of the drive ball screw assembly showed nothing abnormal.

9.2.6. Rudder and Vertical Fin.

The vertical fin and rudder were not damaged by fire and found relatively intact. Traces on the structure show that there was a 20° rightrudder position on impact. The traces left on the quadrants controlled by the rudder pedals also show a 20° rightrudder position on impact.

No abnormality was found on the structure, hinges, balance panels, tabs or snubbers.

AVIARROS

INCOMING TELEGRAM Department of State

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FROM: Brussels

TO: Secretary of State

NO: 1503, February 15, 7 p.m.

REVIEWED BY J. ZOCHARY DATE 2/18/83

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DEPARTMENT OF STATE

FEB 16 1961

MESSAGE CENTER CONTROL

SEN. DEPARTMENT 1503, REPEATED INFORMATION PARIS 401.

PARIS PASS CIVIL AIR ATTACHE.

SABENA flight 548 which left Idlewild 0130 GMT February 15 crashed two KMS from Brussels National Airport at 0905 GMT same date. No survivors. Plane was a Boeing 707 Jet registration SJB, second of five received by SABENA from Boeing factory. Of 61 passengers preliminary lists establish 49 were US citizens. Crew of 11 headed by Captain Lambrechts, one of SABENA best pilots.

Plane apparently overshot runway on first landing attempt. It went around, is said to have tried second pass but went into spin and crashed. Embassy observers who visited scene of crash confirm plane went in almost vertically, miraculously missing several houses and ended up pile debris almost same dimensions as plane itself. Plane had then burned.

Regie Voies Aeriennes (RVA) state plane never in radio contact with tower, although in normal contact Belgian control before that. Pull-up of plane on first landing attempt unusual enough to draw attention senior RVA official at airport. Embassy officers spoke with airport security guard who saw plane spin in. No reason as yet given officially for crash, but SABENA SECGEN Roger Nys informed Embassy officer privately that apparently one, if not two, engines out at time of impact.

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Nys confirmed plane carried flight recorder, which had not been found by noon today.

[redacted]

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ACTION ASSIGNED TO	E/TKC/HV	ACTION TAKEN	Telegram drafted 2/16/61
NAME OF OFFICER & OFFICE SYMBOL	G. Mahoney/HV	DATE OF ACTION	2/16/61
DIRECTIONS TO RM/R	File		

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[redacted] In investigation now getting under way, RVA lacks sufficient technical personnel to do thorough job, probably will have to turn to SABENA for help which could simplify satisfactory finding for SABENA. Since US citizens, US-made plane involved, Embassy particularly concerned that unbiased accident report be published.

Action requested:

Department is requested to draw attention Boeing Aircraft Company to fact that their interests should be protected by having representative, possibly their technical representative Brussels airport, take part to fullest extent possible in investigation.

BURDEN

MLJ/10

Note: Mr. Snowden (AV) and Mrs. Hartl (SCS) notified 9 p.m. 2-15-61 CWO-M

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